NO MORE BAND-AID FIXES

When confronting a short-term need that calls for a fast fix to "stop the bleeding," many organizations have turned to the technological equivalent of a Band-Aid — a customized off-the-shelf solution. Like many well-known remedies, they offer some initial relief, but their long-term side effects can ultimately cause the original wound to deepen and expand. In this information technology (IT) analogy, the bleeding might be a breach in e-mail security. The supposedly simple fix is to apply a patch or application that is customized for the system. The result controls the breach, but will not prevent future intrusions. The long-term side effect is a system with a series of patches that affects total cost of ownership and results in lack of interoperability and inflexible system architectures.

Voluntary consensus standards (VCS) bodies offer an alternative to Band-Aid fixes. They provide a way to anticipate and solve the root of systems problems before they occur, and they eliminate the need for customized fixes. Congress has recognized this and included provisions in the 1995 National Technology Transfer and Advancement Act (PL104-113) for active VCS participation by government agencies.

The Department of the Navy Chief Information Officer (DON CIO) recognizes the value of the VCS bodies and participates in several key standards bodies. In this capacity, the DON is one of many government agencies and private-sector organizations that are seizing the important opportunities these groups provide for shaping product specifications and influencing vendors.

What VCS Bodies Do

VCS bodies promote development through open standards, which is a critical element for planning, developing, implementing, operating and sustaining a global information infrastructure. The specifications and decisions of VCS bodies will directly impact architecture initiatives focused on moving the DON to a Web-centric environment. From the broader DoD level, they are in step with initiatives such as the Net-Centric Enterprise Services, which include:

- Navy Marine Corps Intranet (NMCI)
- Information Technology for the 21st Century (IT-21)
- Base Level Information Infrastructure (BLII)
- Marine Corps Tactical Data Network (MCTDN)
- FORCEnet

By participating in VCS bodies and their technical committees and work groups, the DON is ensuring that its specific requirements are included (or at least addressed) in technical specifications. The result is that commercial products are based on known standards and can be more easily implemented and integrated with other systems. This translates into more efficient, cost-effective, technology-sound solutions for DON IT initiatives.

DON VCS Membership: W3C and OASIS

The DON is a member of the two VCS bodies — the World Wide Web Consortium (W3C) and the Organization for the Advancement of Structured Information Standards (OASIS) — that have the most influence over specifications for the Internet and interoperability. Membership in these VCS bodies is a sensible approach for supporting the Department's architecture initiatives, which are layered on top of the Web and its technologies.

W3C promotes and develops its vision of the Web's future by developing specifications, guidelines, software and tools that together constitute the architecture of the Web. W3C activities include Extensible Markup Language (XML), Hypertext Markup Language (HTML), Web services, security and the semantic Web. W3C specifications are used by virtually every software and hardware company as the basis of their product offerings.

OASIS drives the development, convergence and adoption of technical and e-business standards. The OASIS technical standards are practical implementations of W3C specifications. OASIS technical specifications include the suite of Electronic Business Initiative XML (ebXML) specifications for secure messaging, registry services, service-oriented architecture, security assertion and Web services. OASIS members produce more Web services standards than any other organization in the public sector. They also produce standards for security and standardization efforts and application-specific markets. Both W3C and OASIS are dedicated to developing specifications that are complementary — not conflicting or competing.

Business Standards

In addition to technical standards, OASIS develops business standards such as the XML and ISO 11179 (Metadata Registries) and the Universal Business Language, which is the basis for the recently released DON XML Naming and Design Rules publication. Another key business standards body is the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT). This body develops international standards for business information exchanges used by governments and industries around the world, which includes many of our coalition partners.

Both UN/CEFACT and OASIS are collaboratively developing different facets of ISO 15000-5 Core Components specifications. The UN/CEFACT Modeling Methodology and ISO 15000-5 Core Components methodologies are being adopted by a number of U.S. government agencies. Mark Crawford of LMI Government Consulting, who supports the DON CIO, leads several international VCS standards efforts. He believes that DON involvement in VCS technical and business standards will significantly enhance the Department's ability to use commercial products. More importantly, it will provide unique insight into future trends in Internet and Web architectures, protocols and information standards, and

will enable DON IM/IT efforts to optimally implement those trends in support of its warfighter mission.

DON VCS Representatives

DON commands and individual employees with IT or e-business development responsibilities are encouraged to actively participate as Department representatives to W3C, OASIS, UN/CEFACT and other VCS initiatives. The benefit of participation is the opportunity to learn, and to insert DON requirements as part of the standards development process. Representatives can expect to:

- Provide input into shaping Internet, Web and XML specifications.
- Have access to subject matter experts to discuss best practices and leading-edge implementations.
- Review draft standards (including variations) before they are approved.
- Obtain early insights into the future direction of continually evolving technologies. These insights provide an opportunity to plan for inserting new capabilities in a timely manner, rather than responding after initial deployments in industry.
- Receive indirect benefits such as the opportunity to beta test new products that meet W3C standards and DON requirements.

The DON CIO is the coordinator for all DON interactions with VCS bodies. Commands or individuals that would like to participate on a W3C work group, OASIS technical committee, UN/CEFACT working group or other VCS endeavor should contact the DON CIO representative, by going the DON CIO Web site at http://www.doncio.navy.mil/.

CHIPS

The Department of the Navy Issues XML Naming and Design Rules

The Department of the Navy (DON) has updated its initial guidance on the use of Extensible Markup Language (XML) by issuing new DON XML Naming and Design Rules (NDR). These rules require standardization of XML development and implementation within the DON. More than a coding language, XML is a system for defining languages that provides a means of creating an environment that facilitates and supports adaptable business processes and a net-centric environment. Standardization of XML throughout the DON is critical for interoperability and will ensure that DON applications and systems are being built on commercial products rather than proprietary government requirements.

The NDR is a tool for developing robust enterprise level XML, an approach that allows for a catalog of reusable XML components – elements, attributes, types, schema – that will ensure that XML enhances, rather than detracts from, DON enterprise interoperability. The result will be an environment that is sustainable, responsive and agile. The NDR in conjunction with DON XML Policy requires program managers to avoid using proprietary extensions or XML schema and other elements that are specific to a vendor's software.

"Many program managers and vendors are adding customizations to specifications in an attempt to build market share, which leads to proprietary implementations and expensive middleware solutions," said Robert Green, lead for the DON CIO XML Interoperability and Standards Team. "We're mindful of that. By prohibiting proprietary extensions as part of the DON XML Policy, specifically articulated in the NDR, we are proactively seeking to ensure that vendors adhere to voluntary consensus standards in their products."

DON contractors will now know exactly what is required for DON XML, instead of being presented with competing XML requirements for different entities within the Department. Compiled in a 170-page handbook, the NDR provides specific rules that require conformance for consistent XML development and enterprise interoperability. It also provides closure for a number of standardization issues that were unresolved when the NDR's predecessor, the DON XML Developer's Guide, was published in 2002.

The handbook contains standards-based rules for 18 XML categories, including: attribute declaration, element naming, namespace management and schema structure modularity. The DON XML Work Group developed the NDR, working in close partnership with representatives from voluntary consensus standards bodies such as the Organization for the Advancement of Structured Information Standards (OASIS), the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) and the International Organization for Standardization (ISO).

This new version incorporates key voluntary consensus standards such as ISO 11179 Metadata Registry and ISO 15000-5 ebXML Core Components, aligns with the forthcoming Federal Enterprise Architecture Data Reference Model and is based on the OASIS Universal Business Language Technical Committee and UN/CEFACT Applied Technology Group XML Naming and Design rules.

By basing the NDR requirements on voluntary consensus standards (VCS) from leading standards bodies such as OASIS, UN/CEFACT, ISO and the World Wide Web Consortium (W3C), the DON is also supporting the goals of Public Law 104-113 and the Office of Management and Budget Circular A-119, which encourage agency use of such standards.

The NDR is available as an Adobe PDF at https://www.nko.navy.mil/ on the DON XML Program page or at http://www.doncio.navy.mil/. It will also be published in HTML and XML formats.

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